p254 16-48 even

16. $\sqrt{72} = 6\sqrt{2}$

18. $\sqrt[4]{96} = 2\sqrt[4]{6}$ (6, 16; 2 2 2)

20. $\sqrt[3]{16y^3} = 2y\sqrt[3]{2}$

22. $\sqrt{40a^3b^4} = 2ab^2\sqrt{10a}$

24. $2\sqrt[3]{24m^4n^5} = 4mn\sqrt[3]{3mn^2}$ (8, 3; 2 2 2)

26. $\sqrt[5]{\frac{w^6z^7}{32}} = \frac{wz}{2}\sqrt[5]{wz^2}$

28. $\sqrt[4]{\frac{2}{3}} = \frac{\sqrt[4]{2}}{\sqrt[4]{3}} \cdot \frac{\sqrt[4]{3^3}}{\sqrt[4]{3^4}} = \frac{\sqrt[4]{54}}{3}$

30. $\sqrt{\frac{4r^8}{t^9}} = \frac{2r^4}{t^4}\sqrt{\frac{1}{t}}$

$\frac{2r^4}{t^4\sqrt{t}} \cdot \frac{\sqrt{t}}{\sqrt{t}} = \frac{2r^4\sqrt{t}}{t^5}$

$\frac{2r^4\sqrt{t}}{t^5}$

32. $(-3\sqrt{24})(5\sqrt{20})$ (4 6; 4 5)

$-6\sqrt{6} \quad 10\sqrt{5}$

$-60\sqrt{30}$

34. $\sqrt{\frac{14}{35}} = \frac{\sqrt{2}}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{\sqrt{10}}{5}$

36. $\sqrt{98} - \sqrt{72} + \sqrt{32}$

$7\sqrt{2} - 6\sqrt{2} + 4\sqrt{2}$

$5\sqrt{2}$

38. $5\sqrt{20} + \sqrt{24} - \sqrt{180} + 7\sqrt{54}$ (4 5; 4 2; 9 2 10; 9 6)

$10\sqrt{5} + 2\sqrt{6} - 6\sqrt{5} + 21\sqrt{6}$

$4\sqrt{5} + 23\sqrt{6}$

40. $(3+\sqrt{7})(2+\sqrt{6})$

$6 + 3\sqrt{6} + 2\sqrt{7} + \sqrt{42}$

42. $(\sqrt{3}-\sqrt{5})^2$

$3 - 2\sqrt{15} + 5$

$8 - 2\sqrt{15}$

44. $\frac{\sqrt{6}}{5+\sqrt{3}} \cdot \frac{5-\sqrt{3}}{5-\sqrt{3}} = \frac{5\sqrt{6}-\sqrt{18}}{25-3}$

$= \frac{5\sqrt{6}-3\sqrt{2}}{22}$

46. $\frac{(2+\sqrt{2})}{5-\sqrt{2}} \frac{(5+\sqrt{2})}{(5+\sqrt{2})} = \frac{10+2\sqrt{2}+5\sqrt{2}+2}{25-2} = \frac{12+7\sqrt{2}}{23}$

48. $\frac{x-1}{\sqrt{x}-1} \cdot \frac{\sqrt{x}+1}{\sqrt{x}+1} = \frac{x\sqrt{x}+x-\sqrt{x}-1}{x-1}$ ← Factor by Grouping

$\frac{\sqrt{x}(x-1)+(x-1)}{(x-1)(\sqrt{x}+1)}$

$\frac{(x-1)}{(x-1)}$

$= \sqrt{x}+1$